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CPY - NITL

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FS - CPI

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PA - (NITL) NITTO DENKO CORP

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PR - JP19990343650 19991202

XA - C2001-139723

XIC - B01D-063/10 ; B01D-065/02 ; B01D-069/10 ; C02F-001/44

AB - JP2001157825 NOVELTY - During filtration, raw water (7) is supplied through an inlet (13) to one end of a spiral film element (1) and the filtration of the whole raw water is performed. During washing process, reverse flow cleaning of separation membrane is carried out with a backing pressure of 0.05-0.3 MPa by supplying wash water through raw water permeation outlet (14) to the edge portion of a catchment pipe (5).

- DETAILED DESCRIPTION - During filtration, raw water (7) is supplied through an inlet (13) to one end of a spiral film element (1) and the filtration of the whole raw water is performed. During washing process, reverse flow cleaning of separation membrane is carried out with a backing pressure of 0.05-0.3 MPa by supplying wash water through raw water permeation outlet (14) to the edge portion of a catchment pipe (5). The spiral film element is formed by winding bag-shaped separation membrane possessing a high backing pressure strength on the outer circumferential surface of a porous tube. During filtration, a raw water outlet (15) is closed by closing two valves (30c,30d) and the raw water (7) is supplied through an inlet (13) and after filtration the filtered water passes through the outlet (14).

- An INDEPENDENT CLAIM is also included for spiral membrane module.

- USE - In spiral membrane module and other membrane separators.

- ADVANTAGE - Achieves stable and high filtration, maintaining high permeability for long period by performing reverse flow washing of the membrane separator inexpensively.

- DESCRIPTION OF DRAWING(S) - The drawing shows a sectional view of a pressure vessel incorporating a spiral film element.

- Spiral film element 1

- Catchment pipe 5

- Raw water 7

- Inlet 13

- Outlets 14,15

- Valves 30c,30d.

- (Dwg.2/8)

IW - OPERATE FILM ELEMENT SPIRAL MEMBRANE MODULE MEMBRANE SEPARATE SUPPLY
WASHING WATER POROUS TUBE THROUGH OUTLET FORM REVERSE FLOW PRESET
BACKING PRESSURE CATCHMENT PIPE EDGE

IKW - OPERATE FILM ELEMENT SPIRAL MEMBRANE MODULE MEMBRANE SEPARATE SUPPLY
WASHING WATER POROUS TUBE THROUGH OUTLET FORM REVERSE FLOW PRESET
BACKING PRESSURE CATCHMENT PIPE EDGE

NC - 001

OPD - 1999-12-02

ORD - 2001-06-12

PAW - (NITL) NITTO DENKO CORP

TI - Operating of film element in spiral membrane module and other membrane separators, involves supplying wash water into porous tube through outlet to form reverse flow of preset backing pressure, to catchment pipe edge